

WoT Protocol Binding

Teleconference May 29, 2018

Discussion Agenda

- Simplified TD impact
- Extended Action pattern
- Event delivery over websockets
- Event Delivery over webhooks
- Multiplexed event streams and Subscription pattern
- TD Vocabulary

Simplified TD

- No change to the underlying TD model
- dataSchema elements do not need to be tagged with a schema keyword unless there is both an input and output schema for an interaction
- Form elements do not change to accommodate the new TD serialization
- Plan to rework the examples in the document

Extended Action pattern

- Invoking an Action may create a new interaction instance for tracking and logging
- The new Interaction Description may be returned as a TD mediatype containing a **new Interaction type** with dataSchema and form constructs
- The dataSchema for the new interaction payload may exposed be in the original TD rather than returned in the payload
- The form may also be exposed in an outputForm template in the original TD with only the href to be returned by invoking the action, instead of being returned in the payload when the action is invoked

Event delivery over websockets

- Simple protocol binding with ws: or wss: URI in the form
- Event payload is described in the dataSchema
- Multiplexed events could be described as part of a stream, and a form for a specific event, using a tag e.g. a URI fragment identifier:
wss://0m2m.net:8800#highTemperature
- MultiEvent subProtocol to define stream and tag format for multiplexed event streams

Event delivery over webhooks

- Roles are reversed and the thing pushes events to the webhook
- Client creates a webhook and provides a server URI for the thing to push events to
- Suitable for multiplexed event streams
- Webhooks have a life cycle, create to delete
- More reliable delivery due to push model
- Also could be used for thing to thing orchestration

Multiplexed events

- Multiplexing aggregates events from across time and space, multiple event types in an event stream
- **Subscription** pattern is a **new Interaction type** that can use webhooks or other mechanism, e.g. websockets, EventSource , to deliver event stream
- Reliable delivery per Subscription, could include an event queue resource
- Subscription can filter down to single event
- Need to have named events in the stream, should reuse the name in the Event definition (now Label?)

Subscription Resource

- Subscription Resource could be exposed for each Event that supports Subscription, and/or exposed for the entire TD
- Filter could select one or more Events to include in the Subscription
- Multiple subscriptions could be created on a subscription resource
- Delivery method could be configured from a list of supported delivery methods (ws/wss, EventSource, webhook)

TD Vocabulary

- Form Vocabulary
 - MultiEvent subProtocol
- InvokedAction Interaction type
 - Interaction type for the invoked action resource
 - Has delete operation to cancel
- Subscription Interaction types
 - Standalone Interaction in TD for creating Subscriptions
 - Subscription resource has delete operation to cancel
- Webhook
 - Form type for Event using a special mediatype for the webhook per Event pattern